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ABSTRACT

The Assessment Tool for Moderately Retarded Students in Academic Skills (1978) is designed for moderately retarded students (5-21 years) and mildly retarded students (3-14 years) who will be living in sheltered home and work settings. The assessment tool is based on a life centered curricular model concerned with developing--in a sequential manner--necessary living skills. A review of currently available evaluation tools reveals that some of the measures do not provide for progressive skill acquisition, are not valid for mentally retarded learners, or do not identify progressive objectives through the school years. The Assessment Tool for Moderately Retarded Students in Academic Skills measures student progress in six academic areas: (1) reading; (2) writing; (3) form discrimination and spatial relations; (4) number identification, number-object matching, and counting; (5) applied number skills--money; and (6) applied number skills--calendar, time, and measurement. Each academic area is broken down into basic skills necessary to master long term goals. Trends revealed from using the assessment with approximately 125 moderately retarded students over 4 years are noted. Appended are sample assessment tool items and graphs of average student profiles. (SW)

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Assessing the Progress of Moderately Retarded Students in Applied Academic Skills

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Paper presented at the Annual Convention of the Council for Exceptional Children, Washington, D.C., April 24, 1984.

Assessing the Progress of Moderately Retared Students in Applied Academics

Assessment of functional academics for moderately retarded and young mildly retarded students has frequently been haphazard and based on evaluation tools that were originally designed for normally developing students. THE ASSESSMENT TOOL FOR MODERATELY RETARDED STUDENTS IN ACADEMIC SKILLS (1978) was developed to remedy this situation. The assessment is meant for student's who will be living in sheltered home and work settings. It can be administered by teachers in order to develop appropriate programming for the school years. The purpose of this session is to share this evaluation tool with you, including its basic philosophy, its strengths and weaknesses as compared to other evaluation systems on the market and how we are using this assessment system at BOCES #1, Monroe County, Rochester, N.Y. to set up educational programs for students.

Part of the responsibility of the school is to prepare students for success in their next life environment; that is, to become successfully integrated adults who feel good about themselves and their contributions to others and the world of work. In his early research, Edgerton (1976) interviewed retarded adults and found that their definitions of "quality of life" are not unlike our own. The following areas of adult living appear to have priority for these people:

Productivity - The individual's involvement in the economic life of the community through paid and unpaid work. Work provides a way of structuring daily life, an opportunity for social interaction, a basis for personal identity and status, a chance to contribute to others and a variety of personal challenges.

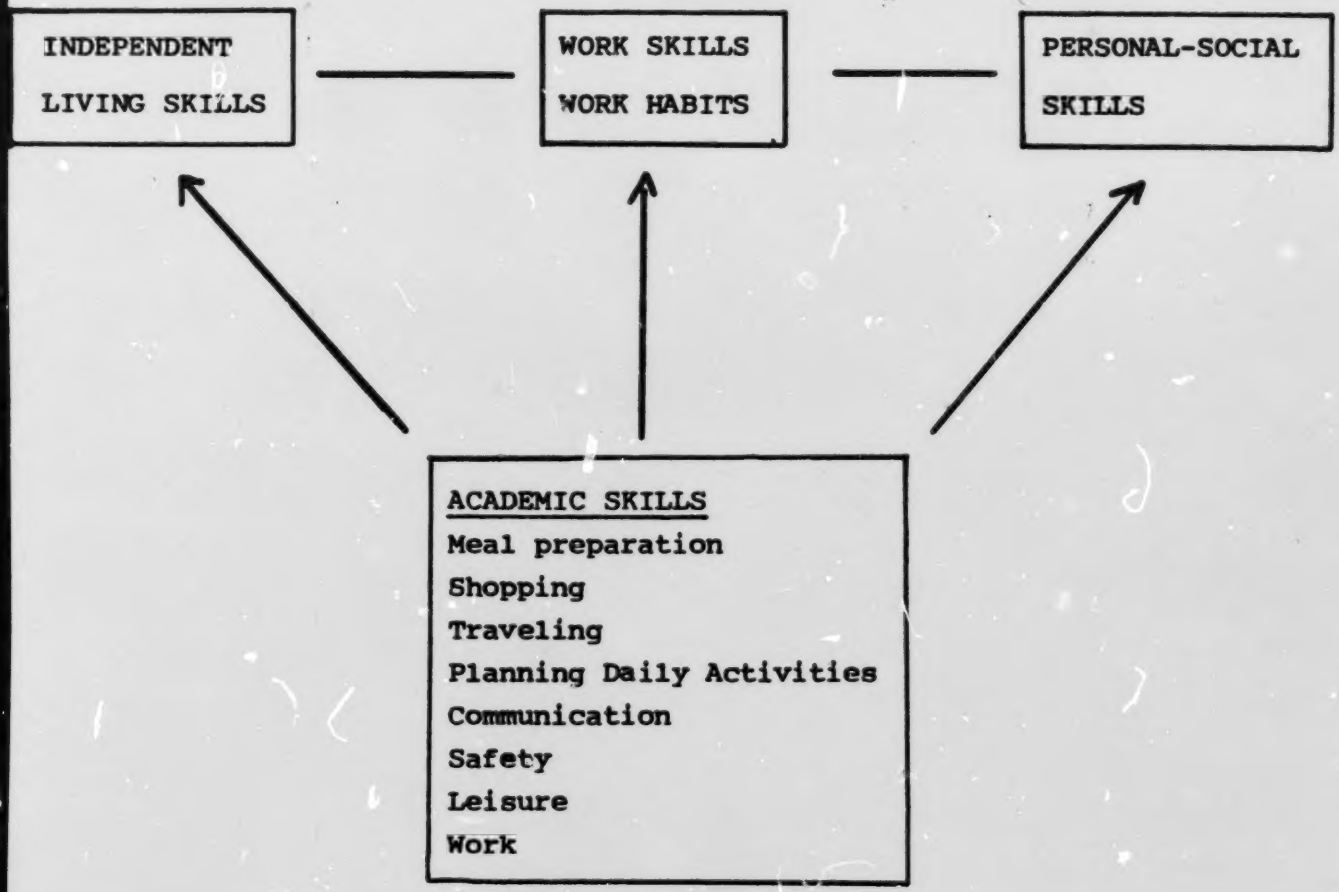
Independence - The extent to which handicapped adults must rely on others to accomplish needed daily activities. Independence is the proportion of time an individual can live without assistance. The adults needs competence in tasks that were habitually done for then by others, ie: self care, cooking, household cleaning and main enance, meal preparation for self and guests, management of financial affairs, car repairs, and organizing leisure activities.

Participation - Some participation in social, leisure, work, or other community activities appears critical to most adult living. The adults need to have contact with others, use of community facilities and resources, access to community events, sustained relationships with others and involvement in choices that affect their lives.

The assessment tool was developed on a life centered curricular model. This model is concerned with developing - in a sequential manner - people's skills which are necessary for adult living. Within this orientation it is assumed the mentally retarded person will live semi-independently, travel using public transportation, work in a structured environment, and maintain a network of social relationships. Many of the skills traditionally taught in schools do not develop the competencies necessary for success in home and community living and personal-social relationships.

In order for academics to be functional - according to the philosophy of this assessment tool - they must maximize the individual's adaptive behavior in these essential life skills. Successful integration into the adult community depends on a person's ability to solve academic problems in an increasingly independent manner in these essential living situations. The living situations that demand functional academics include:

LIFE CENTERED EDUCATION FOR THE MODERATELY RETARDED



The analysis of the academic skills needed in independent living, work situations and social environments form the basis of our Life Centered Curriculum and Academic Assessment Tool. The need to develop an objective assessment tool was generated by the implementation of Public Law 94-142. The I.E.P. process requires the regular review of student progress and the documentation of such progress. Prior to the I.E.P. any academic progress in the moderately retarded student was frequently recorded haphazardly and from teacher observation only. Teacher observation, due to it's lack of objectivity is not a sufficient method to measure student progress. It is extremely difficult for another teacher to build upon reported, observed achievement if the conditions under which such progress was evaluated are not specified. To insure sequential learning and mastery of targeted skills each step in the progression needs to be assessed accurately. For example, it is unfortunate to discover at age 18 that a person is not making progress in money management because s/he was never taught the more-less concept: "Why can't I have lunch at $6.00, when I only have $3.00?" or " Why don't I get a pop when a put 10¢ in a vending machine where the pop is 45¢?"

Continuous academic assessment is also important to identify those students who fail to make progress due to a difference in learning style. Measurement cannot look at end goals only but has to assess the progress of the individual students towards these goals as they move through the school

system from age 5-21. Skills appropriate to the social, vocational and independent living level of 5,10, 15, and 21 year olds differ dramatically from each other. Developmental and environmental concerns need to be included in accurate assessment that accounts not only for end goals, but for intermediate goals as well. In summary, accurate assessment of the academic skill progress of moderately retarded students is needed 1) to insure that learning takes place, 2) to insure that the rights of the person are met as specified in Public Law 94-142, 3) to insure that mastery of identified functional skills at each level of instruction and 4) to insure the identification of learning problems at an early age.

Various attempts have been made to quantify progress among the mentally retarded. Many of the resulting assessment procedures followed a traditional testing model. Other procedures recorded information using non-objective procedures. Most of these assessments require a long observation time in a variety of settings and extensive training time for the observer to be accurate.

In developing our assessment tool of academic skills for the moderately retarded we looked at various commercially available assessement instruments. The following points seemed important in evaluating these instruments:

1. are the tests written in measurable behavioral terms ?
2. are the test items objective or do they rely on subjective observation ?
3. is the test usable for the primary as well as the advanced teacher; could the assessment be used as a progressive record of accomplishments from age 5 - 21 ?

4. is the test item appropriate for the age and mental age level of the individual; eg: length of verbalization, amount of visual material presented?
5. do the test items relate to long term functional academic goals for the mentally retarded?
6. can the test results be used to establish immediate instructional goals?
7. do the test items take into account individual learning styles?
8. is the test difficult to administer; can a para-professional with some training complete the assessment accurately?

In reviewing the evaluation tools on the market, it can be noted that all of them have their strengths and weaknesses in relationship to the preceding eight points. One group of tests includes the AAMD Adaptive Behavior Scale (1974), the Vineland Social Maturity Scale (1965) and the Camelot Behavior and Skill Acquisition Checklist (1974) look at the total person in the environment. Parts of these scales measure academic progress, however, they are not readily adaptable to classroom instruction. In addition, this grouping of tests relies heavily on behavioral observation and does not provide for progressive skill acquisition.

Another set of tests was developed to measure academic skills in a developmental sequence and are criterion referenced. They are represented by the Key Math, Peabody Individual Achievement Test (1970) and the Brigance Inventory of Basic Skills (1981). As they were developed for a normal population, some of the skills tested are not valid for mentally retarded learners and deter from the overall goal of independent living. A third set of assessment procedures we developed expecially for the pre-school child and/or the adult developmentally disabled person.

The Portage Guide to Early Childhood Education (1976) indentifies sequential behaviors that can be implimented in classroom programs and is especially useful for the primary teacher. The Street Survival Skill Questionaire (1980) The Mid-Nebraska Test of Community Living Skills (1980) and The Test for Every Day Living (1978) assess a person 16 years and older on fuctional academic knowledge. These tests are very useful for the identified population, but they do not identify progressive objectives through the school years.

The assessent tool that we have developed is a criterion referenced measure thich is designed to identity instructional objectives for moderately retarded students ages 5 - 21 and for mildly retarded students ages 3 - 14. In addition, many of the identified objectives are appropriate for severely retared students ages 15 - 21. This assessment tool measures student progress in six academic areas:

1. Reading Readiness, Pre-Reading, Reading
2. Writing
3. Form Discrimination and Spatial Relations
4. Numbers: Identification, Number-Ojbect Matching, Counting
5. Numbers: Applied Skills - Money
6. Numbers: Applied Skills - Calendar, Time and Measurement

READING

The long term goal of functional reading for the developmentally disabled person is to be able to process the information perceived in the environment and to respond to it appropriately, safely, and with reasonable speed. The items in the assessment tool reflect the skills necessary to 'read' a natural environment.

See Example A Appendix I

The skills necessary for successful functional reading include the ability to imitate, to listen, to match, to scan for important information, to remember sequences and general responses.

WRITING

Although writing is not a necessary skill for successful adult living it is a valued skill in our society. There is prestige for the developmentally disabled if they are able to sign a check, to record information on a calendar and to write a thank you note. In the writing section we are assessing two areas of achievement. Some of the test items are in developmental sequence and reflect an achieved maturity, eg: copies a square. Other items are presented developmentally in a task analyzed sequence. It is possible to teach the writing of letters by task analyzing them and teaching the individual movements, but unless a person is developmentally ready to see parts within a whole s/he will have great difficulty integrating writing skills.

See Example B Appendix I

FORM DISCRIMINATION

This section focuses on the individual's ability to solve visual-spatial relationships, to compare quantatative information, and to comprehend the language of math. Mastery of these skills seem to be directly related to a persons ability to follow verbal directions, orient in space and do quality work.

See Example C Appendix I

NUMBERS: IDENTIFICATION, NUMBER-OBJECT MATCHING, COUNTING

Most curriculi that stress functional skill development concentrate on money, time and measurement skills. Basic number skills are either neglected, assumed present, or are acquired through traditional curriculum sequences. In designing this section of the assessment tool we identified those numerical skills that are pre-requisite and lead to the understanding of functional math skills. For example, in order to tell time the student has to recognize the numbers 1-12 and have an understanding of long/short as well as the before/after concept. To understand and use a calendar a person needs the numbers 1-31 and a before/after concept in order to understand yesterday and tomorrow. However, in order to count out money to $20.00 a student does not need to have mastery of adding and subtraction concepts. What is needed is the ability to count to 100, starting at any number in sequence by 5's, 10's, 25's and 1's. In addition, comprehension of more/less concepts and the visualizing of groups as they relate to numbers is needed.

The critical issue in developing age appropriate functional skills is to introduce the student to these skills after the numberical base has been well established.

See Example D Appendix I

MONEY

The handling and management of money are the most difficult concepts to master for the developmentally disabled person. The skills involved are frequently beyond the individual's capability, in that they require abstraction, multi-step processes, judgement,

and quantitative thinking. Most of the moderately retarded adults will not be able to make change, budget, or do comparative shopping. The end goals in the assessment of money skills are coin equivalencies, counting money to $20.00 and the ability to indicate whether or not one has enough money to purchase an item.

See Example E Appendix I

CALENDAR, TIME, MEASUREMENT

These areas are advanced applied number skills and require an ability to be aware of time flow, an attention to minute details, complex sequencing and relating numbers to other information; eg: date stated in numbers. They are rarely acquired before a mental age of six (6). The long-term goals identified in this area are: the use of a calendar for information, the ability to follow an individual time schedule, to use measurement concepts in food preparation (time, temperature and liquid and dry measurement), and to associate weather information with appropriate dress.

These six areas form the basis of the academic assessment tool. Each academic area in the testing sequence has been broken down into basic skills necessary to master selected long-term goals. The identified test item is stated behaviorally and grouped by mental age. The items in the mental age groups, however, are not sequential allowing for teacher choice in selecting training goals.

Individual students are assessed when they enter the classroom program. In order to start the assessment the teacher needs the student's current intelligence quotient and chronological age. Using this information the teacher locates the student's mental age on the chart provided in the assessment tool. For example, Kathy is 12 years old and has an I.Q. of 40. Testing should be started at the 4-5 year old mental age. Kathy may well have some skills at a higher level, however, her mental age is an approximate indicator of her level of functioning. In order to begin the actual assessment process the teacher needs to have a checklist for each student, a copy of the assessment tool, and all the specified materials in the area to be tested. To facillitate the speed of testing, it is recommended that all the students on the same mental age level be assessed at one time. The teacher could prepare for a para-professional all the materials needed for measurement, for example, at age 6 and up and train the para-professional to test the students using the procedure outlined at that level.

See Appendix II for example

The test is administered in a structured manner. However, in order to maximize a student's performance any reinforcer, alternative forms of communication, or other necessary adaptations may be used. This should be noted on the form and later on the student's individual education plan. The teacher records items passed or failed by the criterion given. At times it may be helpful to note the present level of mastery and/or individual approaches to the task.

Students are initially tested on their mental age level. Testing is continued until the student fails five consecutive items or 50% of the items in a mental age grouping. It is necessary to test the preceding mental age level if the student shows many weaknesses on his/her mental age level and if these weaknesses represent one kind of skill. For example, a student may fail the listening items at mental age 4-5. Testing the preceding mental age level helps the teacher to find a base line for the student's skills development in that area.

As a result of the testing it is possible to develop a student's individual education plan. Objectives are selected on a long or short term pasis according to the student's rate of learning or the current acquisition level of that skill. Another criteria for selection of objectives may be the number of students whom could be grouped together on the same objective by the classroom teacher or in team teaching. At times it is necessary to select an objective from a previous mental age level to develop a gap in a skill while at the same time continuing instruction on the current mental age level.

Once appropriate objectives have been selected, the testing tool needs to be put away. Caution must be taken not to teach to the language and materials of the test. The BOCES # 1 staff Monroe County has been very creative in developing and locating age appropriate instructional materials for these objectives. This instruction insures generalization of the skill to a variety of materials and situations. Students are retested at the beginning and end of the school year and the checklist is updated.

THE ASSESSMENT TOOL FOR MODERATELY RETARDED STUDENTS IN ACADEMIC SKILLS (1978) has been in use for four years at BOCES #1 Monroe County, N.Y. Some of the students in the original group graduated within a year of the first year of use, but others have been in the program for four years. Approximately 125 students have been tested to date. Twenty-two students have been studied for four years and 55 students for 3 years. Results of the four years of data collection point to some interesting observations.

First, there is a definite trend after two to three years in the program for the students to work on their mental age level in all areas of instruction. When first tested, they frequently excelled in one or two areas. As they moved through the program it appears that the students show fewer splinter skills and begin to work on level in all areas (see graphs inserts in Appendix III). This may happen because teachers are more aware of student deficits and spend instructional time in remediation of those deficits. Another observation that can be made is a resistance is evident on the part of teachers to test form discrimination and measurement skills. This may be due to the need to gather a variety of manipulative materials for testing that are not readily available in the room and/or to the teacher's lack of understanding of the importance of these skills for later independent living and working.

Finally we were curious as to the types of students who consistently contribute to the below mental age level.

Among these students, five patterns appeared.

1. A group of students who are below mental age level in form discrimination, pre-reading, and time, measurement, and calendar skills are those who are also diagnosed as having severe auditory processing deficits.
2. Students with auditory and visual sequencing difficulties show poor progress in the areas of money, and frequently form discrimination and numbers.
3. Students with physical handicaps who have difficulty with writing and the visual spatial aspect of form discrimination
4. There is a group of students who are below mental age level in reading and the aspects of form discrimination that require visual-language integration. These are the students who have been diagnosed as autistic.
5. A small group of students function low in all areas of the assessment. These students are severely aphasic and as a group only seem to have immediate visual perception skills available to them for processing the environment.

This session has shared the philosophy and use of a criterion referenced assessment tool that tests academic growth among moderately retarded students. This assessment procedure has proven helpful and effective in developing and meeting academic goals in school age students ages 5-21. Students are making measurable progress in solving those life skill problems that help them to become better integrated into society.

APPENDIX I

EXAMPLE A

READING READINESS, PRE-READING, READING

M.A.	SKILL TO BE TESTED	TEST	CRITERION
3 - 4 yrs.	dramatizes a variety of actions (hammer-motion, car-drive)	Material: Drinking cup; Appendix page R-6 Give the student the cup. T: "Show me what you do with a cup." Help if student needs it; ie: pretend to drink from cup. Show the student a picture. T: "Show me what you do with a phone (hammer, toothbrush, banana)."	3/4
	identifies 3 primary colors	Material: crayons or 1-inch cubes (DLM) in 8 primary colors Adult holds up one color at a time. T: "What color is this?"	3/8
	matches all the colors	Material: Colored blocks, or paper, or beads (Three each of red, yellow, blue, green, orange, purple) Put one of each color of the set of materials on the table. Give the student the rest. T: "Put all the same ones together."	6/6
	selects missing part of an object or picture	Material: Appendix page R-7 Cover ½ of page. Show student the girl. T: "Look at the girl (telephone)." "Show me what's missing."	2/2
	identifies similarities and differences in 2-3 familiar items (colors, animals, letters of the the alphabet that are grossly different)	Material: 4 coins - 3 nickels, 1 dime 4 crayons - 3 of one color, 1 different 4 cut out letters - 3 'A', 1 'O' Put one set at a time in front of student. T: "Give me the one that is different."	3/3
	after being shown a single picture student can locate same object in a large picture	Material: Appendix page R-8 and R-9 Show student individual picture for 10 seconds and ask him/her to look at it. Remove picture. Put big picture in front of student. T: "Point to the picture that is like the one I showed you."	1/1

These goals would be appropriate for a 10 year old TMR with 40 IQ or a 5 year old EMR with 60 IQ. The skills here are considered to be pre-requisite for example for crossing a street; namely: looking, initiating action, visual matching of an environmental cue (traffic light, picking out that relevant cue from a background.

Appendix I

EXAMPLE A

READING READINESS, PRE-READING, READING

M.A.	SKILLS TO BE TESTED	TEST	CRITERION
5 - 6 yrs.	identifies all lower case letters	Material: Lower case letter alphabet cards (DIM) Put 4 letters at a time in front of student. T: "Point to (a, l..)." Test all lower case letters in random order. Put 4 letters in front of student. T: "What letter is this?" Test all lower case letters in random order.	22/26
	matches equivalent capital and lower case letters	Material: Alphabet cards (capital and small) (DIM) Put 8 mixed capital letters at a time on the table. Have student match lower case letters to them. Use entire alphabet.	26/32
	matches identical words in a group of grossly different words	Material: Appendix page R-25 Put page in front of student. Point to first word and then to the three choices. T: "Look at this word. Find one like it, here."	4/5
	sight reads 10 printed words	Material: Flashcards or word list Appendix R-26 Point to one word at a time, covering up the other words. T: "Read this word."	10/25
	defines, either formally or in terms of use, words or concrete objects	T: "What is a ball?" "What is a hat?" "What is a car?" "What is a stove?" "What is an apple?" Repeat question once if necessary.	4/5
	identifies pictures that depict the following concepts: through, away from, over, towards, around	Material: Appendix page R-23 Put page in front of student. Read teacher directions. Repeat once if necessary.	4/5

These goals would be appropriate for a 15 year old TMR with a 40 IQ or an 8 year old EMR with an IQ of 60. The skills are considered to be pre=requisite for example for supermarket shopping; namely: matching, categorizing, following directions, and using sight words.

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APPENDIX I

EXAMPLE B

WRITING

M.A.	SKILL TO BE TESTED	TEST	CRITERION
4 - 5 years	copies a +	Material: unlined paper, primary pencil, Appendix page W-1 Show student picture of + . Put blank paper under the picture in front of the student. T: "Make one like this."	approximate example
	copies a I , − , O, ɔ, C, V, ∧	Material: primary lined paper, primary pencil Print I − O ɔC V ∧ on top of paper; 1½ inches apart. Give student pencil. T: "Copy these."	approximate example
	copies 1, 2	Material: primary lined paper, primary pencil Put numbers 1, 2 on top of paper; 2 inches apart. T: "Copy these."	approximate example
	copies a square	Material: unlined paper, primary pencil, Appendix page W-2 Show student picture of square. Put blank paper under the picture in front of student. T: "Make one like this."	four angles
	draws a three part man	Material: unlined paper, primary pencil T: "Draw a picture of Mom (Dad, you, self)	approximate 3-part person
	copies a few capital letters (prints large, at random, all over page)	Material: primary lined paper, primary pencil Print one letter at a time on a piece of paper. T: "Make one like this." Accept reversals. Use the following letters: E,F,H,I,L,O,P,T,U,V.	5/10

Some writing skills are developmental and needed for itegrative functioning. Others (I − O ɔC ∧ V) are task analyzed and form the basis for copying the entire alphebet.

Appendix I

Example C

FORM DISCRIMINATION AND SPATIAL RELATIONS			
M.A.	SKILL TO BE TESTED	TEST	CRITERION
4 - 5 years	identifies first, middle, and last position	Material: Appendix page FD-3 Put page in front of student. T: "Point to the first glass." "Point to the last ice cream." "Point to the elephant in the middle."	3/3
	puts a 12 piece puzzle together	Material: 2 wooden puzzles, 11-13 pieces interlocking Put puzzle with removed pieces right side up in front of student. Point to puzzle pieces. T: "Put these in."	2/2
	matches geometric shapes and forms	Material: 8 shapes (○□△◊☆▭⬭✠) drawn in black on 3 x 3 cards (24 cards) Put one card of each shape on the table. Give the remaining 16 cards to the student. T: "Match these."	14/16
5 - 6 years	arranges objects by size and width	Material: 3-4 different size (width) dowels, containers (10 dowels of each kind) Put one dowel of each size (width) in a container on the table. Give student the other dowels. T: "Sort these."	90% correct
	identifies the most common shapes	Material: Appendix page FD-4 Put page in front of student. T: "Point to the square (circle, cross, diamond, triangle, rectangle)."	5/6
	identifies the missing object from a set of four	Material: Appendix page FD-5 Show the student one row at a time. T: "Point to the box that has one shape missing." "What shape is missing?" Accept non-verbal correct response.	2/2

In this section examples are given for Form Discrimanation skills which include solving visual spatial problems, comparing information, and the language of math. These skills are vital to the world of work.

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NUMBERS: IDENTIFICATION, NUMBER-OBJECT MATCHING, COUNTING

M.A.	SKILL TO BE TESTED	TEST	CRITERION
6 - 7 years	identifies numbers 1 - 20	Material: Number line 1 - 20 Put number line in front of student. T: "Point to 13 (5, 19, 11, 9)." Point to numbers 20 (18, 7, 15, 12). T: "What number is this?"	8/10
	identifies numbers 1 - 30	Material: Number line 1 - 30 Put number line in front of student. T: "Point to 21 (6, 18, 30, 27)." Point to numbers 25 (17, 5, 26, 14). T: "What number is this?"	8/10
	writes numbers 1 - 30 in sequence	Material: 1 inch graph paper, pencil Write number 1 in frist box and number 30 in the last box. T: "Fill in the numbers 1 - 30." Accept reversals.	28/30
	fills in missing numbers to 30 starting at a number more than 1	Material: Appendix page N-8, pencil Give student number page. Point to first missing number. T: "Fill in the missing numbers."	14/18
	identifies the number before/ after a given number (1 - 12)	Material: Number cards 1 - 12 Put a number in front of the student. T: "What number comes before (7) ?" "What number comes after (3) ?" Repeat with 2 other numbers for each question.	5/6

Numerical skill are carefully developed to form a basis for the needed applied skills.

NUMBERS: APPLIED SKILLS - CALENDAR, TIME, MEASUREMENT

M.A.	SKILLS TO BE TESTED	TEST	CRITERIO
6 and up	Calendar Skills: names days of the week in order	T: "Tell me the days of the week. Start with Monday."	7/7
	locates day of the week on the calendar	Material: Monthly calendar T: "Point to (Tuesday). Use current day."	1/1
	relates today, tomorrow, and yesterday to days of the week	T: "What day is today?" "What day will tomorrow be?" "What day was yesterday?"	3/3
	states current month	T: "What month is it?"	correct month
	recites months of the year by rote	T: "Tell me the months of the year. Start with January."	11/12
	states current date	T: "What date is today?"	correct date
	locates date on calendar	Material: Monthly calendar T: "Find the date on the calendar."	points t day and date
	states or writes date in numbers (7/9/65)	T: "What is today's date?" If necessary cue with the following questions: "Which number does (March) have?" or "Say the date in numbers."	1/1
	states birthdate (month, day, year)	T: What is your date of birth?" Accept month and/or number of month.	1/1

Appendix I Example D

NUMBERS: IDENTIFICATION, NUMBER-OBJECT MATCHING, COUNTING

M.A.	SKILL TO BE TESTED	TEST	CRITERION
3 -4 years	matches 1:1 correspondence three or more objects	Material: 4 containers, 6 objects Put containers and objects in front of student. T: "Put one (ball) into each (box)."	1/1
4 - 5 years	matches numbers 1 - 4	Material: Three (3) sets of cards, numbers 1 - 4 printed on them (12 cards) Put numbers 1 - 4 in front of student. Put the other cards on the table. T: "Match these."	matches all
	points to numbers 1 - 4	Material: Number cards 1 - 4 Put all cards in front of student, in random order. T: "Point to number 4 (2, 3, 1)."	4/4
	names the numbers 1 - 4	Material: Number cards 1 - 4 Show the student one card at a time in random order. T: "What number is this?"	4/4
	rote counts to 10	T: "Count to 10."	9/10
	gives two or three cubes on request	Material: Blocks Put 8 blocks in front of student. T: "Give me 2 blocks." "Give me 3 blocks." Put blocks back in front of student. Repeat in changed order.	4/4
	counts 5 objects	Material: Appendix page N-1 Put page in front of student. Point to one item at a time. T: "Count the (birds)."	3/4

Even young students can begin to have experiences with money if the basic number skills are taught first.

NUMBERS: APPLIED SKILL - MONEY

M.A.	SKILL TO BE TESTED	TEST	CRITERION
3 - 4 years	matches all coins to same size pictures when given combinations of three different coins: 1¢ 5¢ 10¢ 10¢ 25¢ 50¢ 5¢ 25¢ 50¢ 1¢ 10¢ 25¢ 5¢ 10¢ 25¢	Material: real coins, Appendix page NM-1-3 Give student one stamped coin strip at a time and the coins to be matched (2 of each kind). T: "Match these."	each tr 5/6 correct
	sorts coin combinations (as listed above) to 3 at a time	Material: real coins, 3 containers Give student combination of 3 coins (5 of each kind) as listed above. Put one sample coin in containers in front of student. T: "Sort the coins."	each tr 10/12 correct
4 - 5 years	identifies penny, nickel, dime	Material: real coins (1¢, 5¢, 10¢) Put two coins of each kind in front of student. (6 coins total) T: "Point to the nickel (penny, dime)." Point to each of the coins at random. T: "What coin is this?" Accept names or value of coins.	5/6
	counts out specific amounts of pennies to 5¢	Material: 10 pennies (real coins) Put pennies in front of student. T: "Give me 5¢ (3¢, 4¢)." Give student 2¢ (5¢, 3¢). T: "How much money is this?"	5/6

NUMBERS: APPLIED SKILLS - CALENDAR, TIME, MEASUREMENT

M.A.	SKILL TO BE TESTED	TEST	CRITERION
6 and up	identifies 12 as a dozen	Material: Appendix page NC-1 Show student picture at bottom of page. T: "Which picture shows one dozen?" and T: "How many donuts are in a dozen?"	2/2
	measures to a pre-determined marking on a cup, scales, etc.	Material: Measuring cup, scales, container Visibly mark a reading on a cup (scale). T: "Fill the cup (container) to this point."	2/2
	measures to a whole number on a cup or on scales	Material: Measuring cup, scales, container T: "Fill the cup to number 2 (1)." "Fill the container until the scales read 3 (2)." Accept accurate measurements only.	3/4
	locates a given number (whole or fractional) on a measuring cup or spoon	Material: Measuring cup and spoons T: "Point to 1½ (½) on the cup." "Find the ½ teaspoon (tablespoon)." Use a written model (recipe) as a cue.	3/4
	measures to a fractional number on a cup or spoon	Material: Measuring cup and spoons, flour T: "Fill the cup to 2½ (4)." "Fill the ½ (1) teaspoon level.	3/4
	reads a given instrument (cup, scales, thermometer, oven)	Key Math - Diagnostic Arithmetic test Items B-3 M-17 (accept 60°) M-22 (accept 300° or 350°)	3/3
	sets an oven to a pre-determined setting	Material: Oven T: "Set oven to 250° (400°)." Use a written model (recipe) as a cue.	2/2

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LEARNING CENTER
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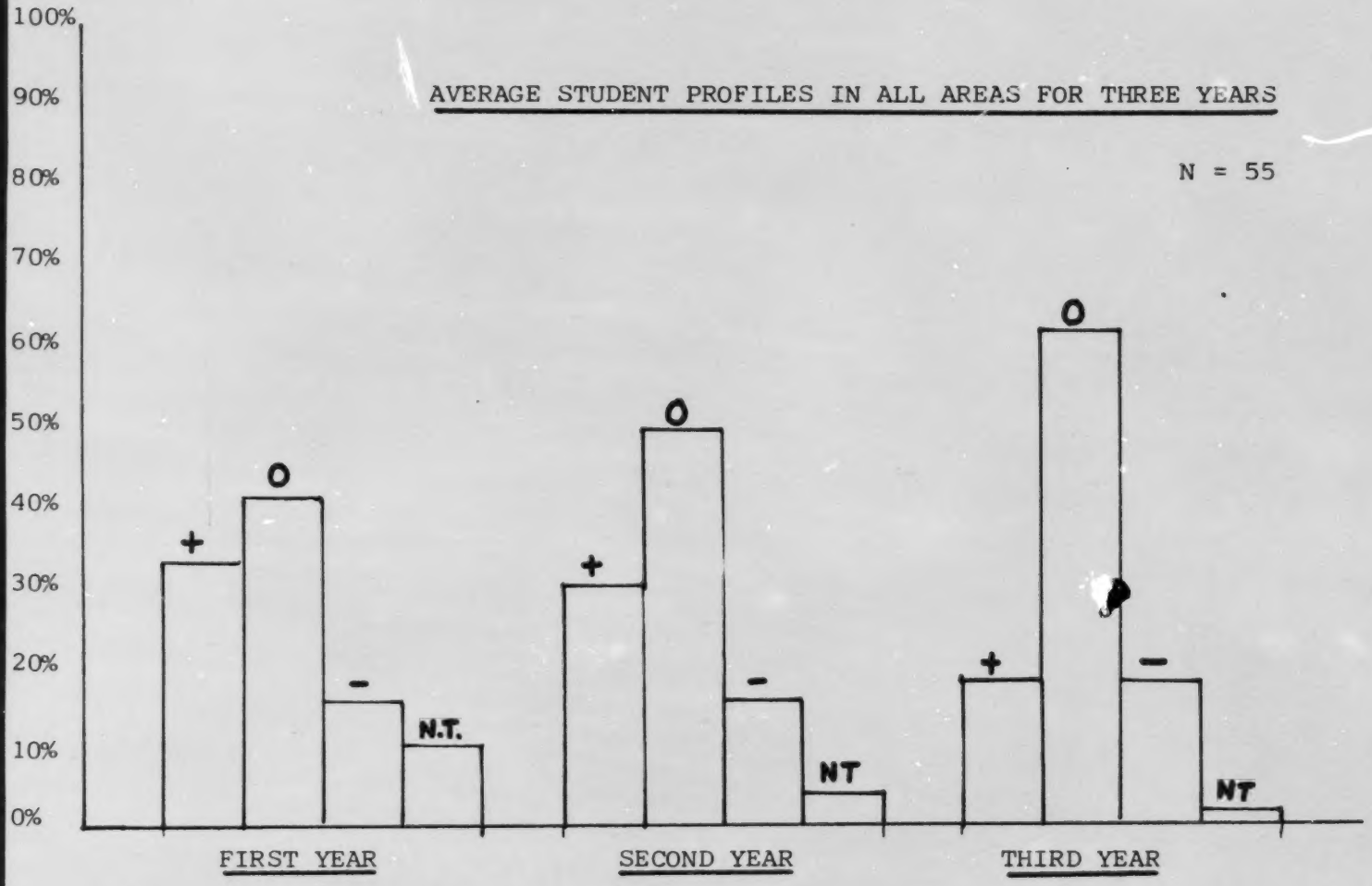
FAIRPORT, NEW YORK 14450

APPENDIX III



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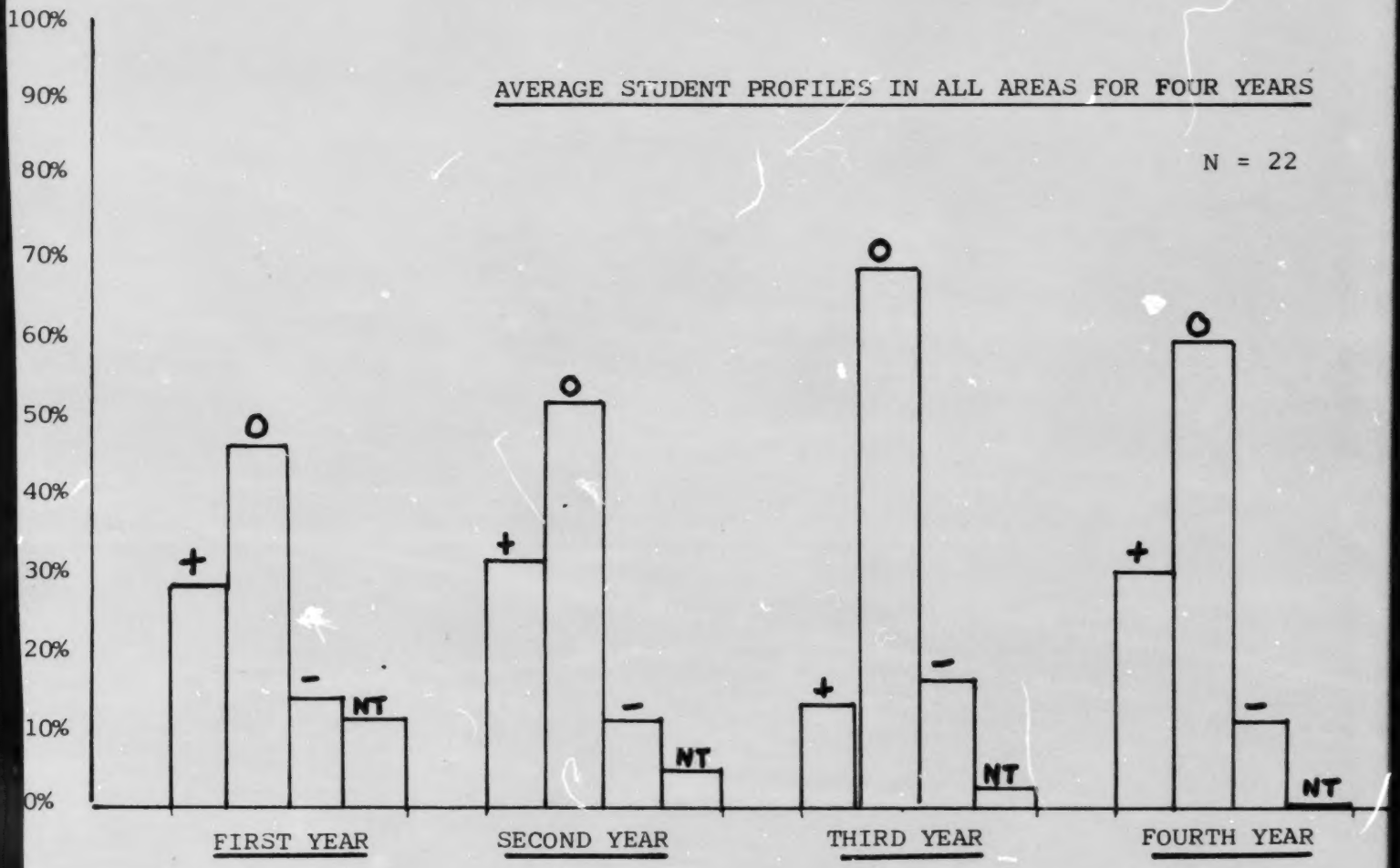

BIBLIOGRAPHY

Blum, S. Shearer, A., Frohman, Hilbird. PORTAGE GUIDE TO EARLY CHILDHOOD EDUCATION. Wisconsin: Portage Project, 1976.

Brigance, Albert. INVENTORY OF ESSENTIAL SKILLS. New York: Curriculum Associates, 1981.

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Doll, Edgar. VINELAND SOCIAL MATURITY SCALE. Minnesota: American Guidance Service, Inc., 1965.

Dunn, Lloyd, and Markwardt, F. PEOBODY INDIVIDUAL ACHIEVEMENT TEST (PIAT). Minnesota: American Guidance, 1970.

Edgerton, R. and Bercovici, M. The Cloak of Competence: Years Later. AMERICAN JOURNAL OF MENTAL DEFICIENCY. 1976, 80, 485 - 497.

Eiduson, Sandra and Mitacek, Barbara (joint authorship). THE ASSESSMENT TOOL FOR MODERATELY RETARDED STUDENTS IN ACADEMIC SKILLS. Board of Cooperative Educational Services, Fairport, N.Y., 1978.

Foster, Ray. CAMELOT BEHAVIORAL CHECKLIST. Washinton: Edmark Associates, 1974.

Irvin, Lawarance. and Halpern, A., THE TEST FOR EVERYDAY LIVING. New York: McGraw Hill, 1978.

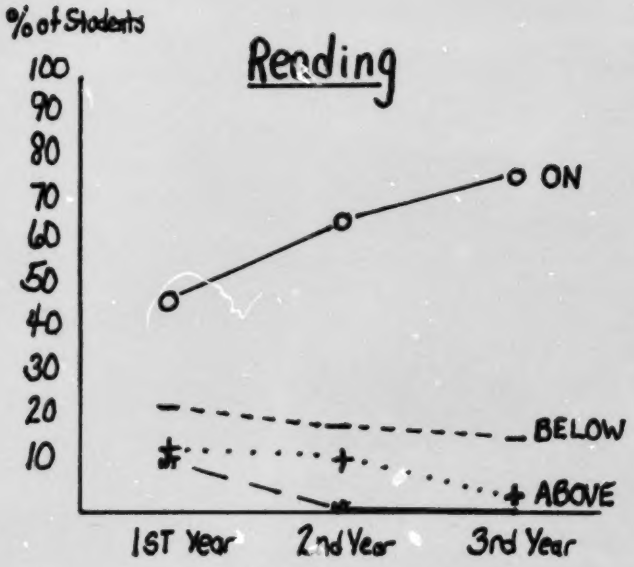
Linkerhoker, Dan and L. McCarron. THE ADAPTIVE BEHAVIOR STREET SURVIVAL QUESTIONNAIRE. Dallas: Common Market Press, 1983.

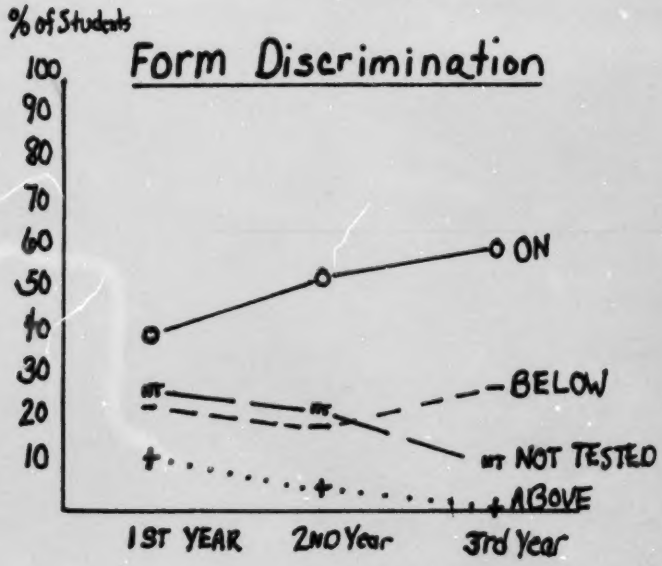
Nihira, Kazio, Foster, Shellhaus, Leland. AAMD ADAPTIVE BEHAVIOR SCALE. Washington: American Association on Mental Deficiency, 1974.

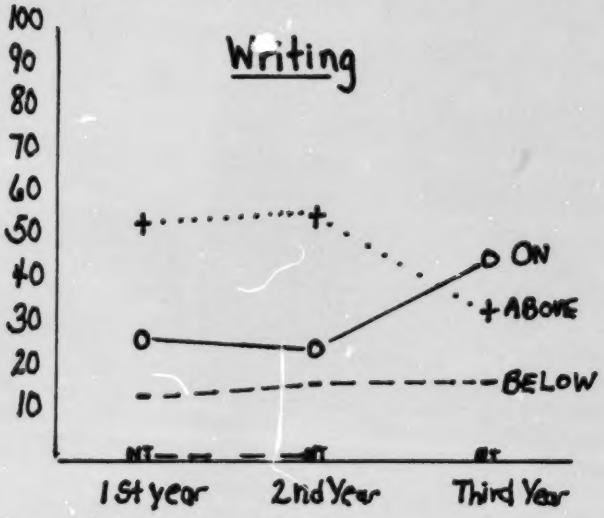
Schalock, Robert and Gadwood, L. COMMUNITY LIVING SKILLS SCREENING TEST, 2nd Ed. Nebraska: Mid-Nebraska Mental Retardation Services, 1980.

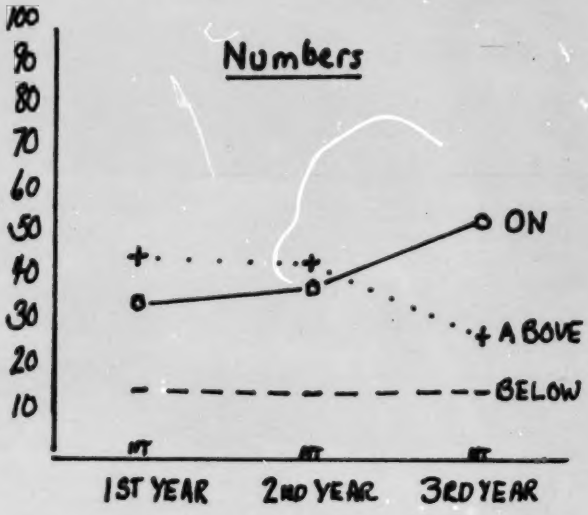
Student Progress in Three Year Group

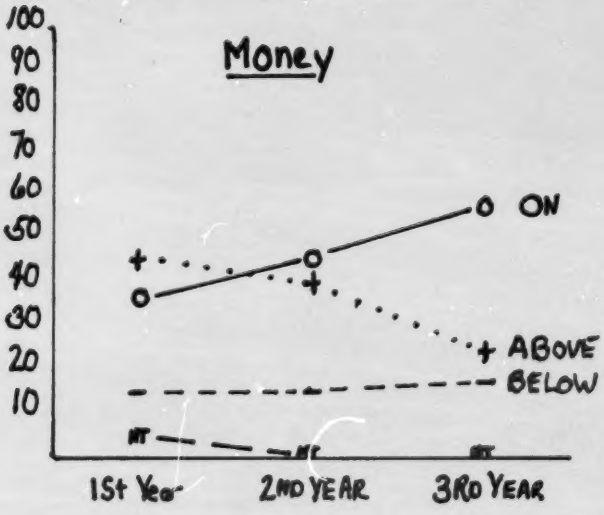
N=55

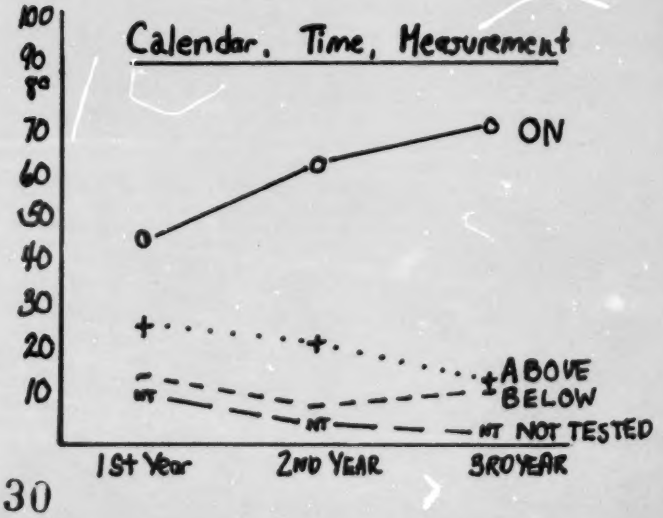












BIBLIOGRAPHY

Blum, S. Shearer, A., Frohman, Hilbird. PORTAGE GUIDE TO EARLY CHILDHOOD EDUCATION. Wisconsin: Portage Project, 1976.

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